

RSM FY12 IPR

Wilmington District - Beaufort Inlet Navigation Corridor

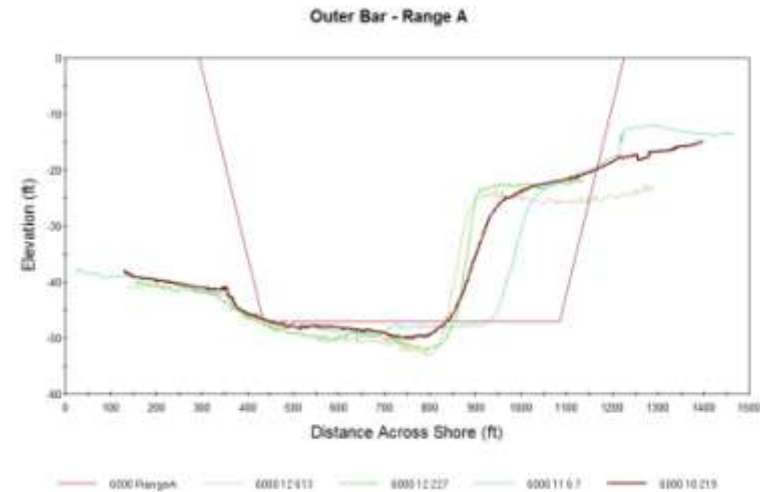
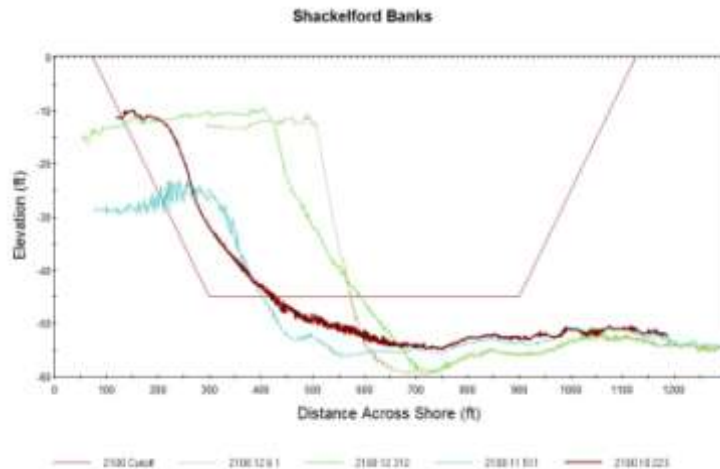


Description/Challenge

- The current alignment of the Beaufort Inlet navigation channel has been in place since 1911.
- Consistent shoaling occurs near the tip of Shackleford Banks along the east side of the channel and within the outer range along the west side of the channel.
- Operations is interested in allowing alternate alignments following natural migration of deep water within an environmentally acceptable corridor.

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Goals/Issues to Address

- Establish a corridor that is environmentally and operationally acceptable to allow the channel to migrate within.
- Reduce annual dredging requirements.
- Improved navigation by providing an alignment with full template width. Due to funding limitations, the existing template is rarely dredged to full authorized dimensions.
- Reduce potential turtle takes by reducing hopper dredging requirements and utilizing larger contracts with pipeline dredges.

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Models, Tools, Databases, etc Used

- Methods of analysis consist of comparison of historic channel surveys to develop shoaling patterns and rates including the growth rate of the Shackleford spit.
- The CMS model previously developed at Beaufort Inlet is being used to model the extreme channel conditions to measure wave and flow changes in sensitive areas of the ebb tide delta.
- Existing USCG ship track data review to determine existing shipping patterns

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District, RSM Activity Title

Results of the Initial Investigation:

- Improved maintenance of Beaufort Inlet through modification of current dredging practices. These modifications could include larger durations between dredging cycles and the use of pipeline dredges in larger contracts. Pipeline dredging would reduce environmental impact on sea turtles and allow for improved dredging of high shoaling areas within the channel that currently used hopper dredges are unable to manage.
- At a minimum the navigation corridor would provide greater flexibility to keep the navigation channel operational during years with constrained funding.
- Reduced maintenance cost of the navigation channel could result from larger dredging intervals provided by the navigation corridor resulting in reduced mobilization costs.
- The findings from this initial study will be used to request authorization for a planning study or if appropriate obtain approval for advanced maintenance of the channel within the corridor limits.